F. L. PRUYN.

DEVICE FOR REMOVING MATERIAL FROM UNDERGROUND PIPES.

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1,097,876.

Patented May 26, 1914.

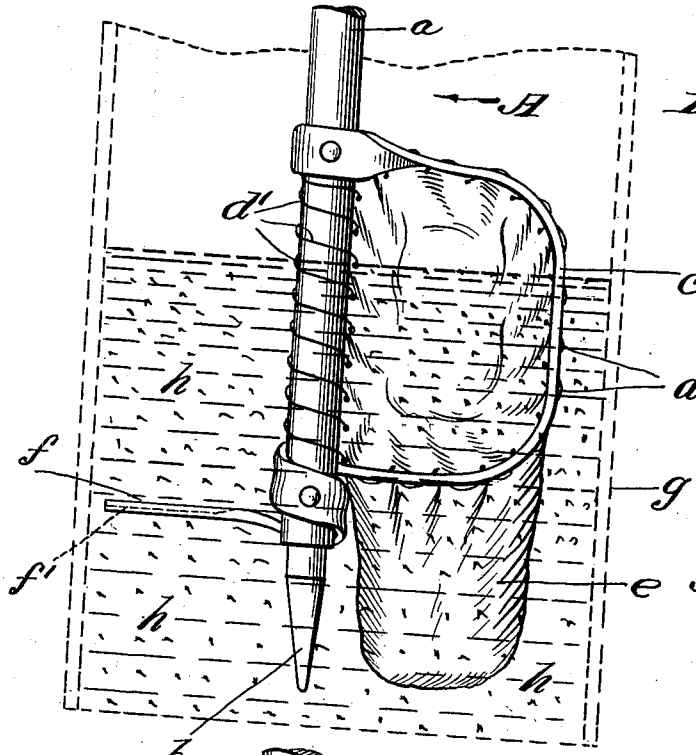


Fig. 1.

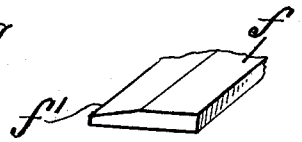


Fig. 3

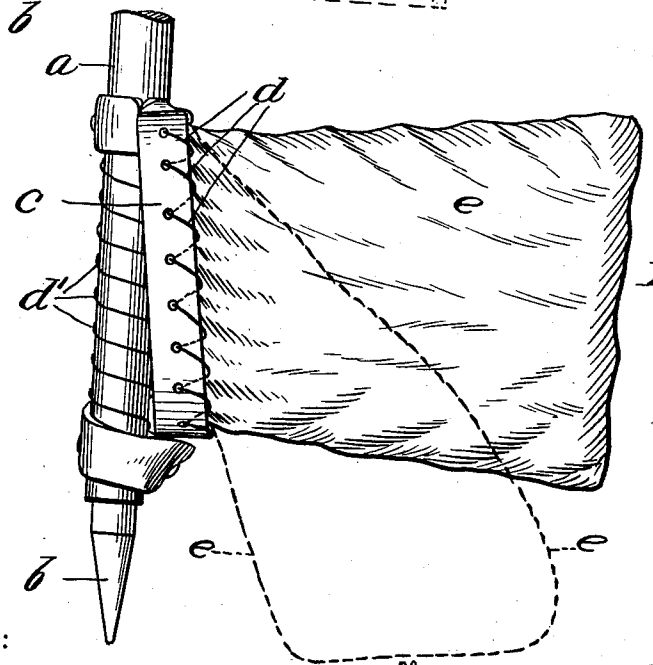


Fig. 2.

Witnesses:
M. Reimer.
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Francis Lansing Pruyn Inventor
By his Attorney
James Hamilton

UNITED STATES PATENT OFFICE.

FRANCIS LANSING PRUYN, OF NEW YORK, N. Y., ASSIGNOR TO THE UNDERPINNING & FOUNDATION COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

DEVICE FOR REMOVING MATERIAL FROM UNDERGROUND PIPES.

1,097,876. Specification of Letters Patent. Patented May 26, 1914.

Application filed January 11, 1913. Serial No. 741,429.

To all whom it may concern:

Be it known that I, FRANCIS LANSING PRUYN, a citizen of the United States of America, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Devices for Removing Material from Underground Pipes, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in devices for removing material from underground pipes, such as hollow piles and pipes used in underpinning and foundation work; and an object of this invention is to provide a device of this character which will be simple in construction, comparatively cheap in manufacture and efficient in operation and use.

In the drawings illustrating the principle of this invention and the best mode now known to me of applying that principle, Figure 1 is an elevation of so much of my new device as is necessary to illustrate this invention; Fig. 2 is an elevation taken in the direction of the arrow A of Fig. 1; and Fig. 3 is a detail showing the edged construction of the agitator-arm.

The device is provided with a suitable handle-bar or rod *a* the lower end *b* of which is pointed. To the lower end of the handle-bar *a* there is attached in any suitable manner a laterally-extending U-shaped frame *c;* and to this frame *c* there is suitably fastened, as by the wires *d* a bag *e* of textile or other suitable material. By means of the wire *d'* a part of the edge of the bag at its mouth is fastened to the lower end of the rod *a*. One of the arms of the U-shaped frame *c* is bent around the lower end of the bar *a* and extends laterally therefrom, so that it lies on the side of the rod opposite that from which extends the U-shaped frame *c*. This lateral extension *f* is edged as shown at *f'* in Fig. 3 and serves as an agitator or stirrer to loosen the soil or other material in the pipe, as the handle-bar *a* is turned. The bag *e* in conjunction with the U-shaped frame *c* acts as a scoop to receive the material loosened by the agitator *f*, which is below the frame *c* and, therefore, in advance of it as the device penetrates into the material. When the bag is sufficiently full of material, the device is raised and the bag is emptied. The hollow structure from which the material is to be removed is shown at *g* in Fig. 1 and the material therein to be removed is denoted by the reference letter *h*.

The agitator-arm *f* may be dispensed with without departing from the spirit of this invention; but I prefer to use such an arm as an auxiliary means of loosening the earth and preparing it for reception by the bag *e*. The bag *e* may be made of practically watertight material so that water may also be removed by the device. Again, since the receptacle *e* is in the form of a bag, it will when weighted with the material assume an almost vertical position, as shown by the dotted lines in Fig. 2 and is thus particularly well adapted for the retention of the material to be removed. Again, the bag *e* will remove not only water and fine sediment but also will gather and entrap stones which, as is well known, offer great resistance to the sinking of underpinning, such as pipes and hollow piles. The bag *e* is preferably made long enough to hang down and in this position to retain the material with water washing against the bag.

I claim:

1. A device for removing material from hollow underground structures, comprising a handle; a laterally-extending frame projecting from one side of said handle and lying in a plane substantially parallel thereto; an agitator which projects laterally from said handle in advance of said frame for loosening the material; and a bag which is of flexible material and the mouth of which is attached to said frame and is substantially unobstructed.

2. A device for removing material from hollow underground structures, comprising a handle; a U-shaped laterally-extending frame which projects from one side of said handle and lies in a plane substantially parallel thereto and a leg of which extends laterally and forms an agitator for loosening the material; and a bag which is of flexible material and the mouth portion of which is attached to said frame and is practically unobstructed.

Signed at the borough of Manhattan, city, county and State of New York, this seventh day of January, A. D., 1913, in the presence of the two undersigned witnesses.

FRANCIS LANSING PRUYN.

Witnesses:

RUTH MORRIS,

RALPH N. HARDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."